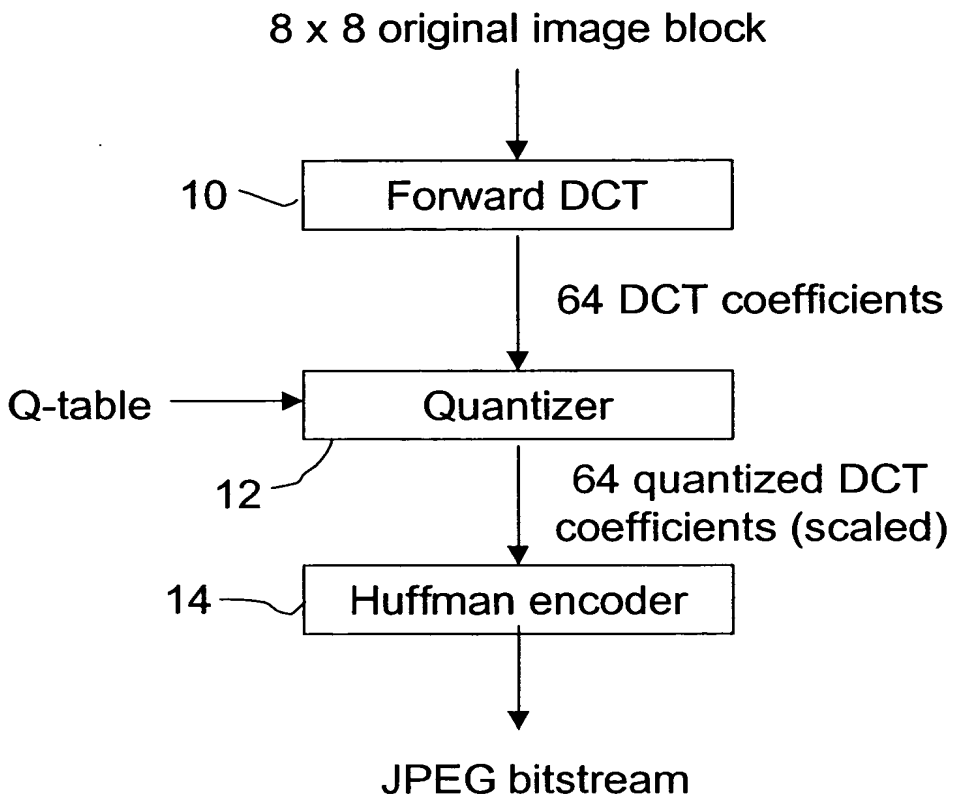

Fig. 1 (prior art)

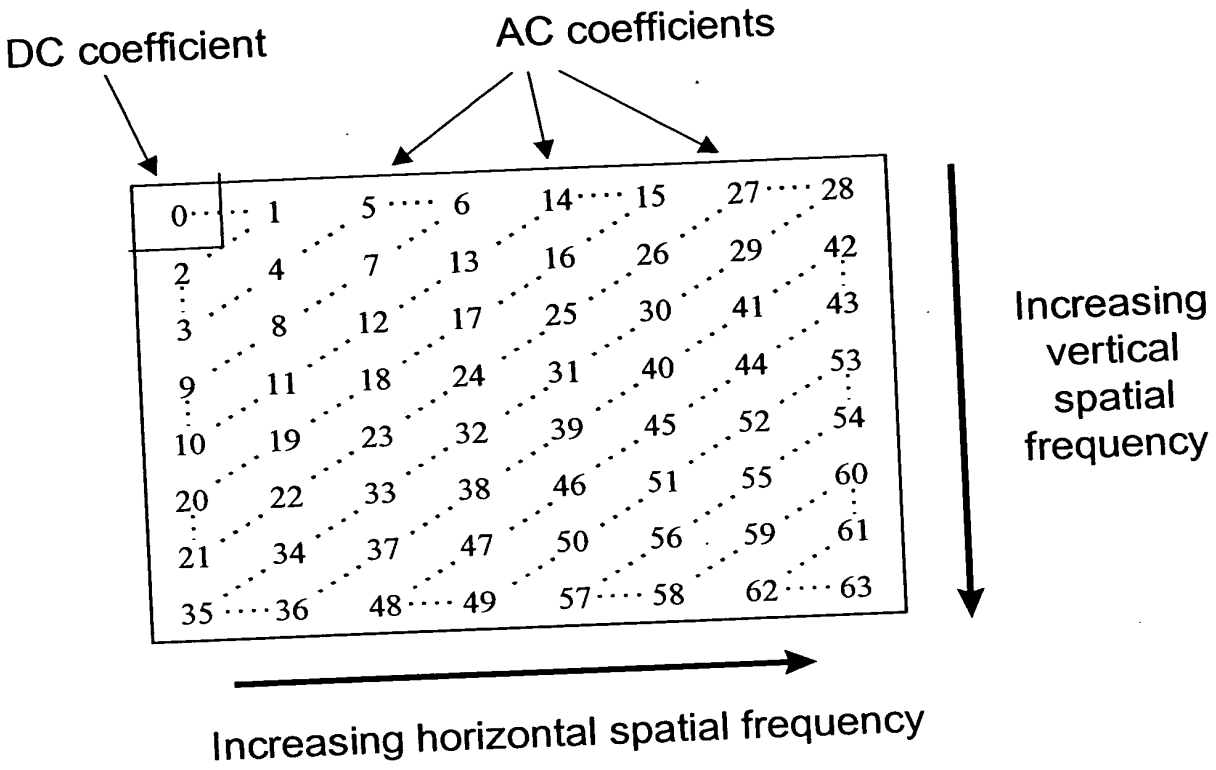

Fig. 2 (prior art)

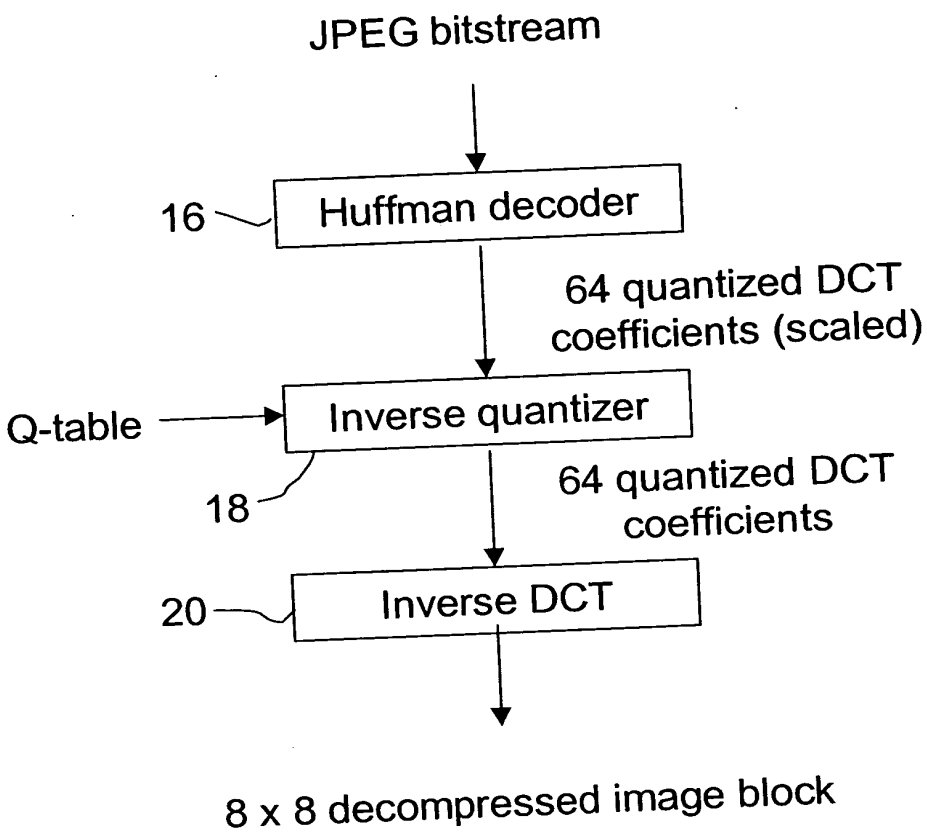

Fig. 3 (prior art)

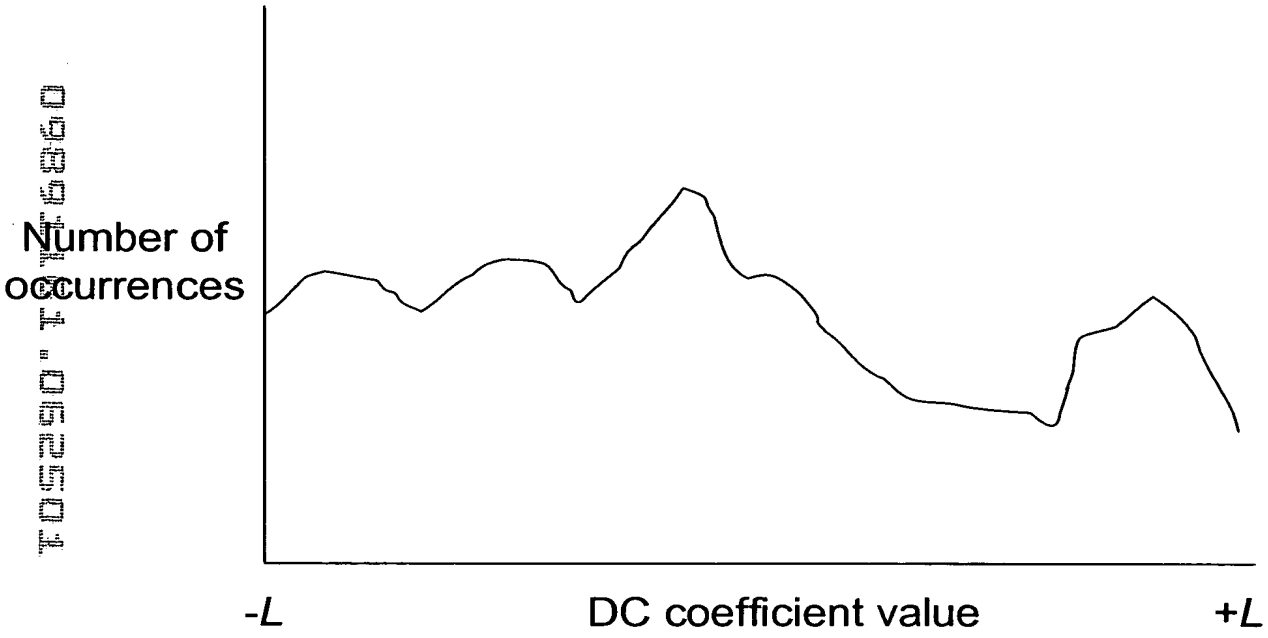

Fig. 4

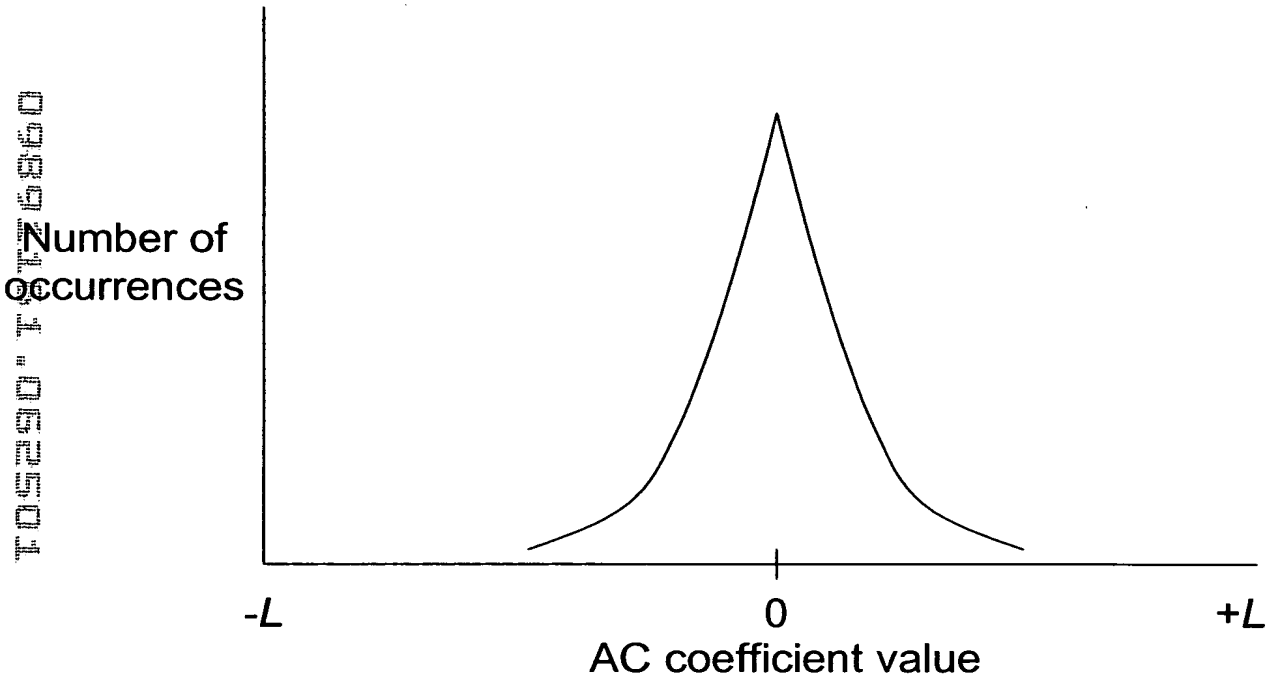

Fig. 5

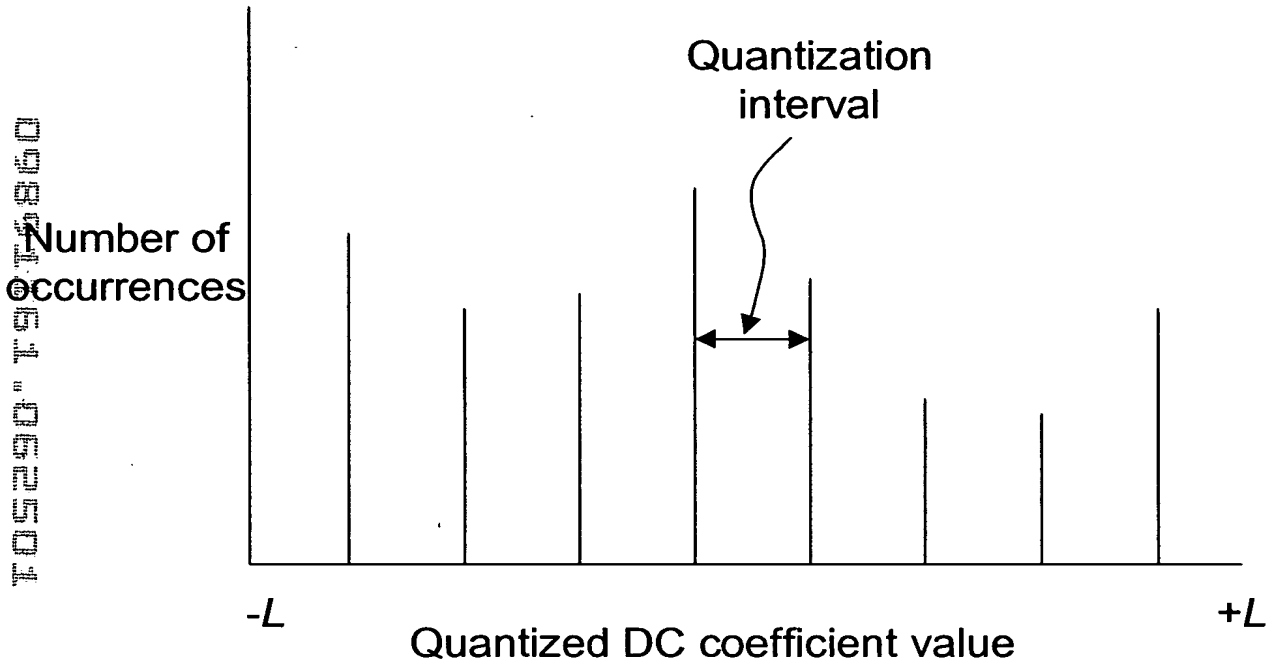
Quantization
interval
Number of
occurrences
-L
+L
Quantized DC coefficient value

Fig. 6

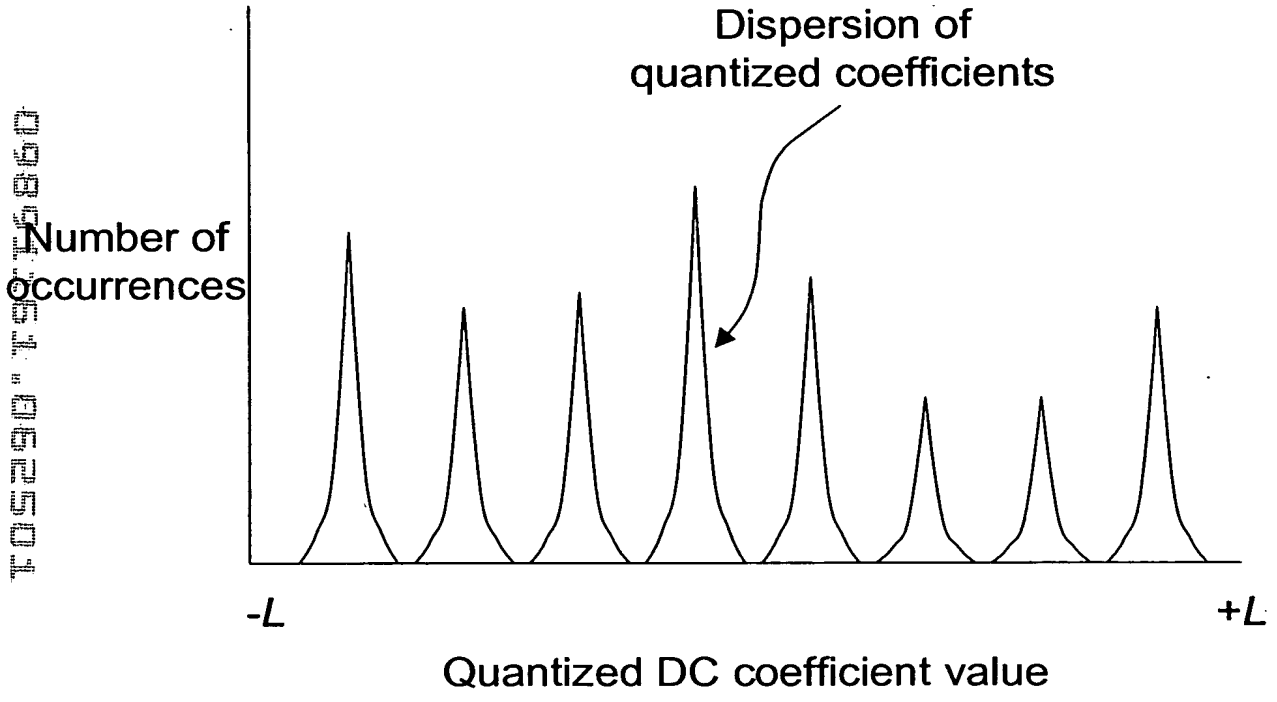
Dispersion of
quantized coefficients
Number of
occurrences
-L
+L
Quantized DC coefficient value

Fig. 7

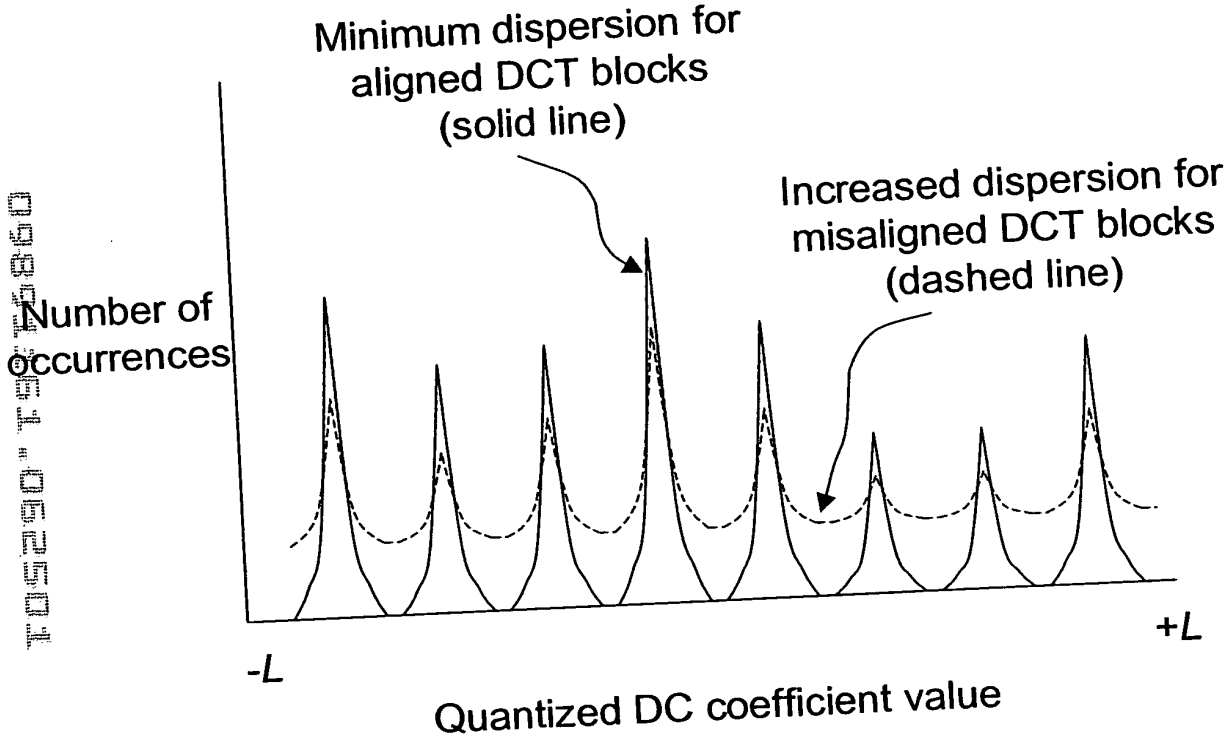
Minimum dispersion for aligned DCT blocks (solid line)
Increased dispersion for misaligned DCT blocks (dashed line)
Number of occurrences
-L
+L
Quantized DC coefficient value

Fig. 8

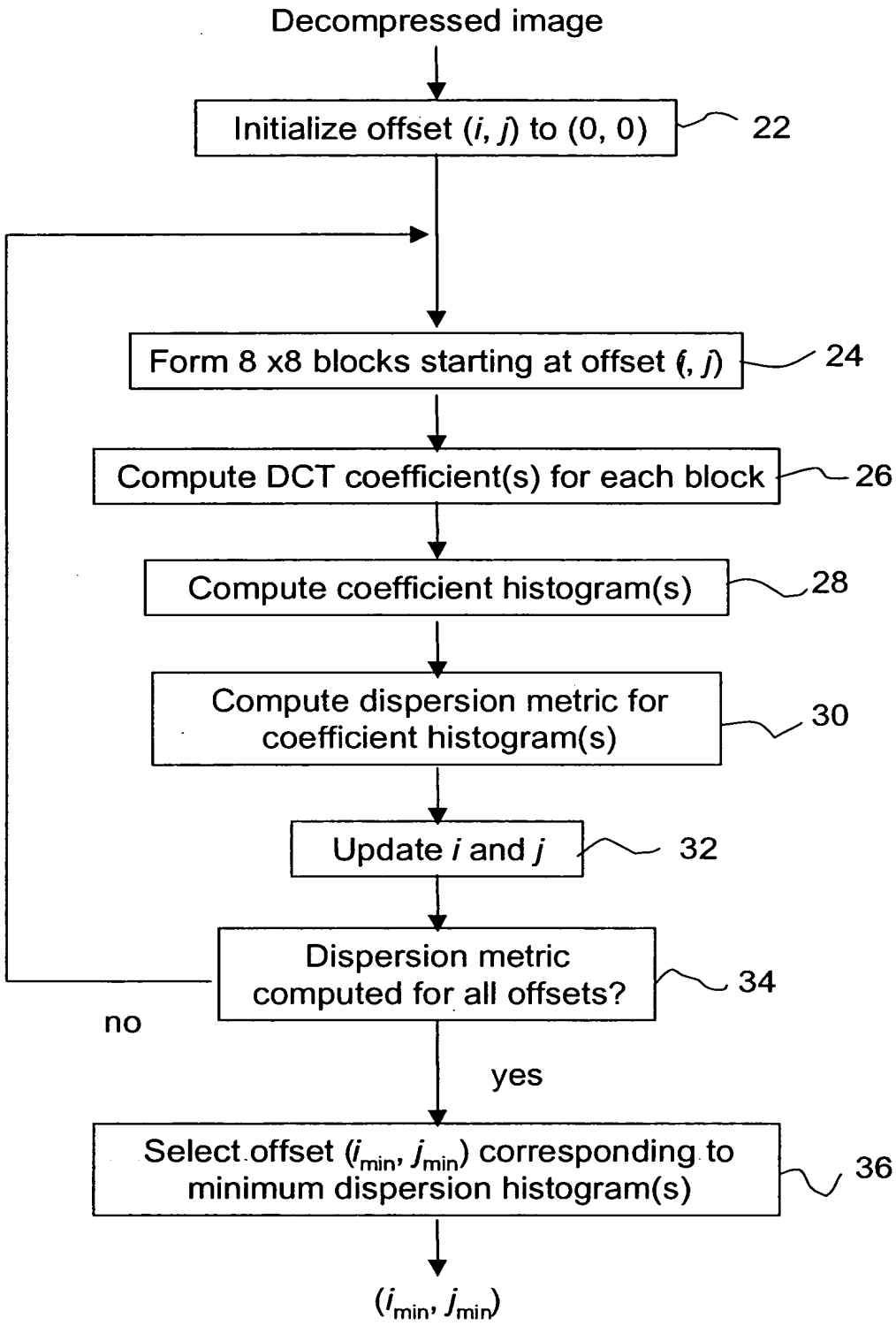
Decompressed image
Initialize offset (i, j) to (0, 0)
22
Form 8 x8 blocks starting at offset (i, j)
24
Compute DCT coefficient(s) for each block
26
Compute coefficient histogram(s)
28
Compute dispersion metric for coefficient histogram(s)
30
Update i and j
32
Dispersion metric computed for all offsets?
34
no
yes
Select offset (imin, jmin) corresponding to minimum dispersion histogram(s)
36
(imin, jmin)

Fig. 9

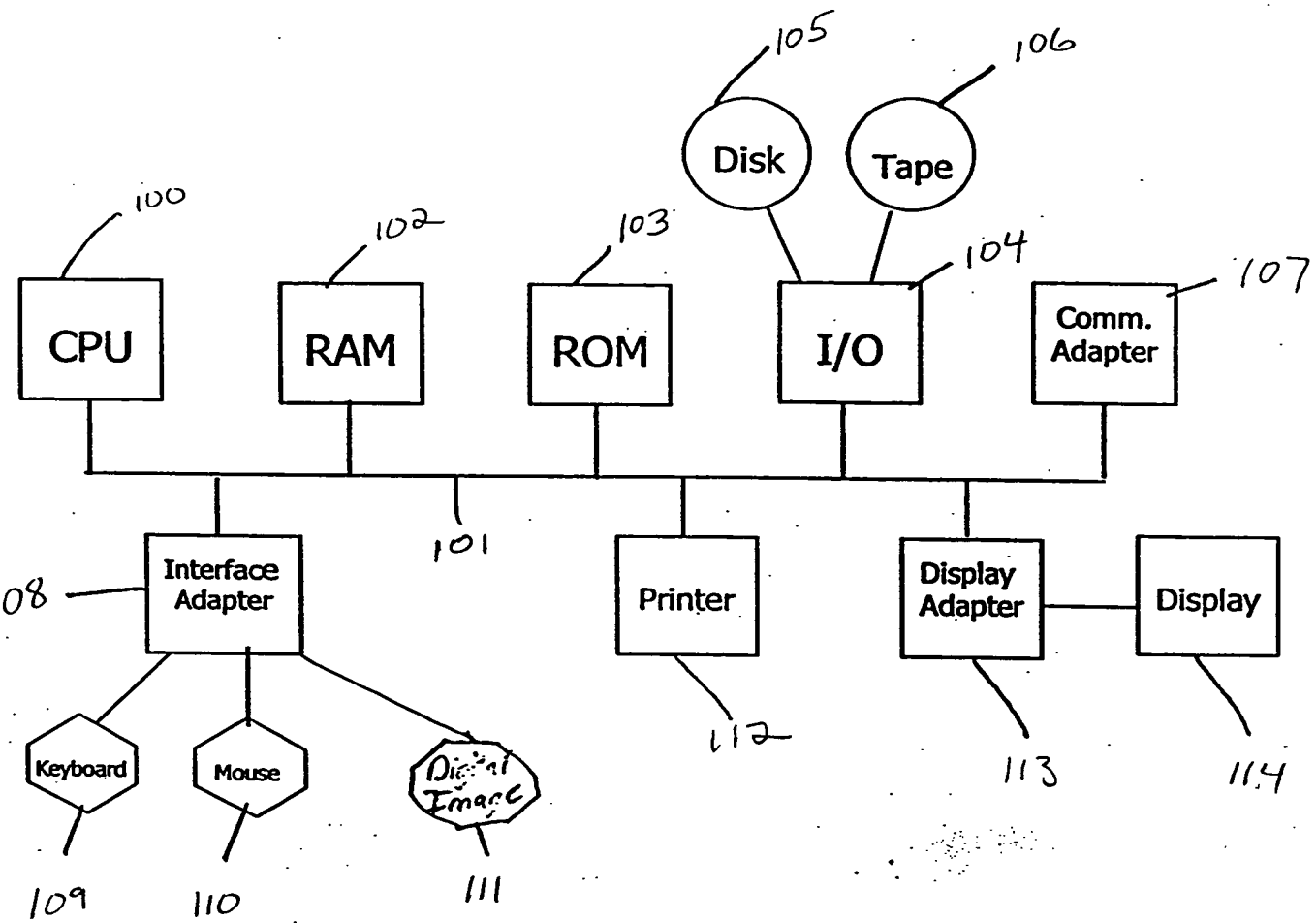
105
106
Disk
Tape
100
102
103
104
107
CPU
RAM
ROM
I/O
Comm. Adapter
101
108
Interface Adapter
Printer
Display Adapter
Display
Keyboard
Mouse
Digital Image
112
113
114
109
110
111

Figure 10